

ACCESSION NR: AP3001574

8/0191/63/000/006/0013/0015

AUTHOR: Trostyanskaya, Ye. B; Venkova, Ye. S.; Kazanskiy, Yu. N.; Stepanov, A. I.;
Aristovskaya, L. V.; Kosareva, N. G.

TITLE: Combined hardenable polyesters for preparing articles by the spray-coating method

SOURCE: Plasticheskiye massy, no. 6, 1963, 13-15

TOPIC TAGS: polymaleate, polyacrylates, spray-coating of glass fiber

ABSTRACT: Recipes were worked out for curable polyesters (PM-1 type polymaleate with polyacrylates 712 and TGM-3) which are suitable for making large objects of complex shape by spraycoating of glass fiber. Partially removing the lubricant from the glass fiber strengthens the final spray-coated article, permits more even distribution of resin on the fiber. Curing for several hours at 150 degrees appears optimum. A glass fiber laminate made of glass cloth ASTT(b)-S sub 2, without lubricant removal, was formed at ambient temperature under 0.35 kg/sq. cm. After 6 days at 20C the strength was only 1700 kg/sq. cm.; upon curing 4 hours at 150 degrees, strength increased to 3500 kg/sq. cm. Amount of resin binder was 32%; heating for additional 50 hours at 200 degrees decreased the weight by only about 4%. The authors express thanks to Ya. D. Avrasin for supplying them polyacrylate

Cord 1/2

ACCESSION NR: AF3001574

712 for the study." Orig. art. has: 4 tables and 1 figure.

ASSOCIATION: none

SUBMITTED: 00

SUB CODE: 00

DATE ACQ: 01Jul63

ENCL: 00

NO REF SOV: 002

OTHER: 000

Card 2/2

L 35857-66 EWT(m)/EWF(j)/T IJP(c) WW/RM	
ACC NR: AP6023429	SOURCE CODE: UR/0190/66/008/007/1219/1225
AUTHOR: Trostyanskaya, Ye. B.; Venkova, Ye. S.; Aristovskaya, L. V.	
ORG: Moscow Aviation Technology Institute (Moskovskiy aviatsionnyy tekhnologicheskiy institut)	
TITLE: Polycondensation of <u>tris(hydroxymethyl)phosphine oxide</u> with phenols	
SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 7, 1966, 1219-1225	
TOPIC TAGS: organic phosphorus compound, alkylphosphine oxide, polymerization rate, polycondensation, catalytic polymerization, heat resistant plastic, thermosetting material, phenolic plastic	
<p>ABSTRACT: Controversial data on the reaction of tris(hydroxymethyl)phosphine oxide (TMPO) with phenol prompted a study of the reactions of TMPO with phenol, resorcinol, and phloroglucinol. The purpose of the study was to prepare phosphorus containing polymers with increased heat and strength resistance. In the absence of a catalyst, the reaction with phenol at 160-200C yielded only a phenol-formaldehyde type resin with a low polycondensation rate because of predominant splitting of TMPO. In the presence of a BF₃-phenol complex as catalyst, the rate of polycondensation was increased and at 145C in 8 hr the reaction yielded 30 wt% of an insoluble, thermosetting phenol-TMPO resin with high phosphorus content. The polycondensation rate was further increased in the reaction with resorcinol and even more so with phloroglucinol. Chemical analysis of the reaction products at various stages of polycondensation indicated</p>	
Card 1/2	UDC: 541.64+678.86

ARISTOVSKAYA, T.V.

1/c

CA

Utilisation of CO₂ and the possibility of reduction of the carboxyl group by heterotrophic microorganisms. T. V. Aristovskaya. Microbiology (U. S. S. R.) 10, 701-15 (1941); Chem. Zentr. 1942, II, 2160.—Bact. phyconium (II), Mycobact. rubrum (II), M. aurantiacum (III), Asp. oryzae (IV), etc., are autotrophic in respect to CO₂. Thus I can oxidize NH₃ to nitrites, which is possibly utilized as an energy process in CO₂ assimilation. Staph. aureus, Bact. fluorescens, H. rabonnick, I and actinomycetes (V) do not react in the absence of CO₂ in the presence of organic salts. This indicates that the carboxyl group of an organic acid can replace CO₂. I, II, III, IV and V are able to utilize salts of oxalic and formic acids as the only C source, i. e., to reduce the COOH group. It is assumed that heterotrophic organisms utilize CO₂ by synthesis. The primary products of CO₂ reduction can be organic acids.
T. Laanes

ARISTOVSKAYA, T. V.

"Carbon Dioxide and the Life of Heterotrophic Microorganisms" (p. 54) by
Aristovskaya, T. V. (Moscow).

SO: Advances in Contemporary Biology (Uspekhi Sovremennoi Biologii) Vol. 17, 1944, No. 1

ARISTOVSKAYA, T. V.

PA 18/49T50

USSR/Medicine - Microorganisms
Medicine - Fermentation, Bacterial
Sep/Oct 48

"The Fermentative Activity of Northern
Microorganisms," T. V. Aristovskaya, Kola Base
of Acad Sci USSR, 4 3/4 pp

"Mikrobiologiya" Vol XVII, No 5

Study of fermentative activity of Kola and
Leningrad breeds of three species of mold
revealed greater catalytic and inverse
activities in northern breeds as compared with
southern. Apparently, activity of the protease
produced by an organism depends on catalytic
and inverse activities more than on temperature
18/49T50

USSR/Medicine - Microorganisms (Contd) Sep/Oct 48
conditions of medium. Cladosporium herbarum
grown at 10° has greater inverse and catalytic
activities than same species grown at 20°. This
suggests that increased activity of ferment
systems of northern breeds of microorganisms is
connected with low temperatures. Submitted
13 Mar 48.

18/49T50

CA
ARISTOVSKAYA, T.V.

2y

Producing fat with a newly isolated mold of the *Fusarium* group. T. V. Aristovskaya, E. V. Litvinova, and P. Stasiko. *Prilozheniye k Zhurn. Prikl. Khim.* 5(28), 552-7(1949).—A new fat-producing mold of the *Fusarium* group isolated from birch sap converts sugar and dextrin to a palatable orange-colored oil. Surface culture gave 52% fat (dry basis), while submerged fermentation gave 38% fat (dry basis). The oil has I no. 85, sapon. no. 185, and acid no. 10. F. G.

ARISTOVSKAYA, T.V.; STAKHORSKAYA, L.K.

Nitrogen nutrition of bacteria of the dysenteric group; author's abstract.
Zhur.mikrobiol.epid.i immun. no.11:43 N '53. (MLRA 7:1)

1. Iz Leningradskogo instituta vaktsin i syvorotok.
(Dysentery) (Nitrogen)

ARISTOVSKAYA, T. V.

USSR.

✓11061* Discussion of Problems of Soil Microbiology. K
diskussii po voprosam pochvennoi mikrobiologii. (Russian.)
T. V. Aristovskaya. *Mikrobiologiya*, v. 24, no. 3, May-June 1953,
p. 359-383.
Role of bacteria in soil. Methods of study, ecological approach,
and seasonal variations. 7 ref.

ARISTOVSKAYA, TV

THOMAS

ARISTOVSKAYA, T.V.

Work of the commission on soil biology at the Sixth International
Congress of Soil Scientists. Pochvovedenie no.2:117-120 F '57.
(MLRA 10:5)

1. Leningradskiy gosudarstvennyy universitet.
(Soil biology)

ARISTOVSKAYA, T.V.

Characteristics of microflora of Podzols of northwestern U.S.S.R.
Sbor. rab. TSentr. muz. pochv. no.2:228-249 '57. (MLBA 10:8)
(Russia, Northwestern--Soil micro-organisms)
(Podzol)

ARISTOVSKAYA, T.V.

Decomposition of fulvic acid by micro-organisms. [with summary
in English]. Pochvovedenie no.11:40-51 N '58. (MIRA 11:12)

1. Tsentral'nyy Muzei Pochvovedeniya imeni V.V.Dokuchayeva
AN SSSR.

(Fulvic acid) (Soil micro-organisms)

ARISTOVSKAYA, T.V., PARINKINA, O.M.

Seasonal variations and ecological characteristics of microflora
in some Podzol soils. [with summary in English]. Mikrobiologiya
27 no.3:324-330 My-Je '58 (MIRA 11:9)

1. TSentral'nyy muzey pochvovedeniya im. V.V. Dokuchayeva AN SSSR,
Leningrad.

(SOIL, microbiology
seasonal & ecol. factors (Rus))

ARISTOVSKAYA, T.V.

"Soil microflora of the European U.S.S.R." by A.V.Rybalkina
and E.V.Kononenko. Reviewed by T.V.Aristovskaia. Pochvove-
denie no.11:118-121 N '59. (MIRA 13:4)
(Soil micro-organisms)
(Rybalkina, A.V.) (Kononenko, E.V.)

ARISTOVSKAYA, T.V.

Applying the principal of continuous culture in investigating
soil micro-organisms. Sbor. rab. TSentr. muz. pochv. no.3:304-
311 '60. . . (MIRA 13:9)
(Soil micro-organisms)

ARISTOVSKAYA, T.V.; PARINKINA, O.M.

New methods of investigating communities of soil micro-organisms.
Pochvovedenie no.1:20-28 Ja '61. (MIRA 14:1)

1. TSentral'nyy muzey pochvovedeniya imeni V.V. Dokuchayeva AN
SSSR.

(Soil micro-organisms)

ARISTOVSKAYA, T.V.

Iron accumulation during the decomposition of organomineral complexes of humus substances by micro-organisms. Dokl. AN SSSR 136 no.4:954-957 F '61. (MIRA 14:1)

1. Tsentral'nyy muzey pochvovedeniya imeni V.V. Dokuchayeva.
Predstavleno akademikom V.N. Shaposhnikovym.
(Leningrad Province—Soil micro-organisms)
(Iron hydroxides)
(Humus)

ARISTOVSKAYA, T.V.; PARINKINA, O.M.

Studying soil microbe patterns of Leningrad Province. Mikro-
biologiya 31 no.3:385-390 My-Je '62. (MIRA 15:12)

1. Tsentral'nyy muzey pochvovedeniya imeni V.V.Dokuchayeva,
Leningrad.

(LENINGRAD PROVINCE--SOIL MICRO-ORGANISMS)

ARISTOVSKAYA, T.V.; VLADIMIRSKAYA, M.Ye.; GOLLEBAKH, M.M.; KATANSKAYA,
F.A.; KASHKIN, P.N.; KLUPT, S.Ye.; LOZINA-LOZINSKIY, L.K.; NORKINA,
S.P.; RUMYANTSEVA, V.M.; SELIBER, G.L., prof. [deceased]; SKALON,
I.S.; SKORODUMOVA, A.M.; KHETAGUROVA, F.V.; CHASTUKHIN, V.Ya.;
PARSADANOVA, K.G., red.; GARINA, T.D., tekhn. red.

[Comprehensive laboratory manual on microbiology] Bol'shoi prak-
tikum po mikrobiologii. [By] T.V.Aristovskaya i dr. Pod obshchei
red. G.L.Selibera. Moskva, Vysshaya shkola, 1962. 490 p.
(MIRA 16:3)

(MICROBIOLOGY--LABORATORY MANUALS)

ARISTOVSKAYA, T.V.

Decomposition of organic-mineral compounds in Podzolic soils.
Pochvovedenie no.1:30-43 Ja '63. (MIRA 16:2)

1. Tsentral'nyy muzey pochvovedeniya imeni V.V.Dokuchayeva.
(Podzol) (Humus) (Soil micro-organisms)

ARISTOVSKAYA, T.V.; PARINKINA, O.M.

New soil microorganism *Seliberia stellata* nov.gen.n.sp.
Izv. AN SSSR. Ser. biol. 28 no. 1:49-56 Ja-F'63.(MIRA 16:8)

1. Tsentral'nyy muzey pochvovedeniya imeni V.V.Dokuchayeva,
Leningrad.

(SOIL MICROORGANISMS)

ARISTOVSKAYA, T.V.

Principles of ecologic analysis in soil microbiology. Poch-
vovedenie no.1:7-16 Ja '62. (MIRA 17:1)

1. Tsentral'nyy muzey pochvovedeniya imeni V.V. Dokuchayeva.

ARISTOVSKAYA, T.V.

Natural forms of the existence of soil bacteria. Mikrobiologiya
32 no.4:663-667 J1-Ag '63. (MIRA 17:6)

1. Tsentral'nyy muzey pochvovedeniya imeni V.V. Dokuchayeva.

ARISTOVSKAYA, T.V.

Taxonomic position of the genus *Seliberia* Arist. et FarinF.
Mikrobiologiya 33 no.6:929-934 N-D '64.

(MIRA 18:4)

1. TSentral'nyy muzey pochvovedeniya imeni Dokuchayeva.

ARISTOVSKAYA, Tat'yana Vyacheslavovna

[Microbiology of Podzolic soils] Mikrobiologiya podzolistykh pochv. Moskva, Nauka, 1965. 136 p.

(MIRA 18:11)

ARISTOVSKIY, V. I.

Hydrometric installations and structures. Approved textbook for
hydrometeorological institutes. Leningrad, Gidrometeorologicheskoe
izd-vo, 1949. 298 p. (50-27528)

TC175.A7

HRISTOVSKIY, V.

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4.11-236

Meteorological Abstr.
Vol. 4 No. 11
Nov. 1953
Aquodur Vapor and
Hydrometeors

Aristovskii, V. V. Infil'tratsiia atmosferykh osadkov. [Infiltration of atmospheric precipitation.] *U.S.S.R. Tsentral'nyi Institut Prognozov, Trudy*, 12(39):34-60, 1949. 16 pgs. 11 refs. 44 eqs. **DLC**—Detailed theoretical and experimental study. Author strongly distinguishes between the initial absorption or soaking state and the final "filtration" state, when the law of Darcy can be applied. A critical summary of Russian theoretical work is given at first and the following formula for the velocity of "absorption" v [cm.sec⁻¹] is proposed: $v = \frac{k_p}{l}$; l —time; $k_p = c(n - w_k)\phi$; $n - w_k = l_0$: porosity; w_k —volume content of capillary water; $\phi = F_p/F_s$; F_p —weight of moving water, $F_s = \frac{2\sigma}{r}$ meniskus force; c, σ —coefficients, r —radius of capillar. The amount of water necessary for the complete saturation of the soil from the ground water up to the surface is $H = k_p \ln \frac{l_k}{l_0} + kt$; $kl = n - w_k$; l_0 —constant dependent on the moisture content of the surface layer at the beginning of the process l_k —time, when the infiltration rate is getting constant; t —time, necessary for the gravitational motion of the water in the distance of d down to the ground water. Applications to different soils and slopes discussed. **Subject Headings**: 1. Infiltration 2. Soil moisture 3. Hydrologic cycle.

28(1) TABLE I BOOK INFORMATION 504/2715

Abdumajid bank Duvayin'kov, KEN. Institut matematiky

Zastoyayemye metody elektrodinamicheskoy smolychi do raz'yaznaya
dynamicheskoy teorii. (Application of the Method of Electrodynamic
Analogy to the Solution of Various Engineering Problems) 87yiv,
Vyl-vo AN UZSSR, 1979. 160 p. 1,000 copies printed.

Ed. of Publishing House: T.K. Rasmikh; Tech. Ed.: O.O. Matrizhukhi;
Editorial Board: P.P. Fil'chikov (Moscow, U.S.S.R.), V.M. Ostapenko (Minsk,
Belarus), Yu.Ye. Shchegolevichuk, I.S. Pavlovich'kov, and
V.I. Gerasimov'kov.

FOREWORD: This book is intended for scientific workers, engineers,
apprentices and students.

CONTENTS: This book is a collection of articles on the application of the
electrodynamic analogy method to the solution of various engineering
problems. Among the topics discussed is the modelling of certain technical
problems on resistance paper by the electrodynamic analogy method. Special
attention is given to the study of various problems of filtration, in both
homogeneous and inhomogeneous ground, problems of plane and space
flowing problems, modelling electro-osmotic water-level fall and the con-
formal mapping problem. Problems of the electrodynamic analogy method
resistance paper and the accuracy of the electrodynamic analogy method
are studied, and the universal model of the EDNA integrator is de-
scribed. All the articles are with summaries in Russian and English.

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DOUCHIKOV, A.G. Compensation of Errors in Applying the
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PISHKIN, B.A. [Pyshkin, B.A.], otv.red.; ARISTOVSKIY, V.V. [Aristova'kyi, V.V.], doktor tekhn.nauk, red.; GUZOV, M.Z. [Huzov, M.Z.], kand.tekhn.nauk, red.; ZAGUMENNYI, O.G. [Zahumennyi, O.H.], red.; PECHKOVSKAYA, O.M. [Plechkova's'ka, O.M.], red.izd-va; MIL'OKHIN, I.D., tekhn.red.

[Calculation of seepage through hydraulic structures; collection of scientific works] Fil'tratsiini rozrakhunky gidrotekhnichnykh sporud; zbirnyk naukovykh prats'. Kyiv, 1959. 161 p.

(MIRA 13:2)

1. Akademiia nauk URSR, Kiev. Rada po vyvchenniu produktyvnykh syl URSR. 2. Chlen-korespondent AN URSR, golova Komisii po problemi kompleksnogo vikoristannya vodnikh resursiv URSR RPS AN URSR (for Pishkin).

(Hydraulic engineering--Tables, calculations, etc.)

PISHKIN, B.A. [Pyshkin, B.A.], otv.red.; TYULENEV, M.O. [Tiuleniev, M.O.], red.; ARISTOVSKIY, V.V. [Aristovs'kyi, V.V.], doktor tekhn.nauk, red.; ALPAT'YEV, S.M. [Alpat'iev, S.M.], kand. sel'skokhoz.nauk, red.; ZHELEZNYAK, Y.A. [Zheliezniak, I.A.], kand.tekhn.nauk, red.; MAKSIMCHUK, V.L. [Maksymchuk, V.L.], kand.tekhn.nauk, red.; SEMENOV, K.S., kand.tekhn.nauk, red.; PECHKOVSKAYA, O.M. [Piechkovs'ka, O.M.], red.izd-va; KADASHEVICH, O.O., tekhn.red.

[Over-all utilization of Ukrainian water resources; collected studies] Kompleksne vykorystannia vodnykh resursiv Ukrainy; sbirnyk naukovykh prats'. Kyiv, 1959. 173 p. (MIRA 13:1)

1. Akademiia nauk URSS, Kiev. Rada po vyvchenniu produktyvnykh syl URSS. 2. Chlen-korespondent AN URSS; golova Komisii po problemi kompleksnogo vikorystannya vodnykh resursiv URSS, Rada po vivchenniu produktyvnykh sil URSS Akademii nauk URSS (for Pishkin).
 3. Chlen-korespondent AN URSS; Ukrain's'kiy naukovo-doslidnyi institut gidrotekhniki ta melioratsii (for Tyulenev). 4. Institut gidrologii i gidrotekhniki AN URSS (for Zheleznyak, Maksimchuk, Pishkin).
- (Ukraine--Water resources development)

PYSHKIN, B.A., red.; ARISTOVSKY, V.V. [Aristovs'kyi, V.V.], doktor tekhn. nauk, red.; DYATLOVITSKIY, L.I. [Diatlovyts'kyi, L.I.], kand. tekhn. nauk, red.; SPIRIN, G.M. [Spirin, H.M.], red.; SPIRINA, N.I., red.; PECHKOVSKAYA, O.M. [Pechkovs'ka, O.M.], red. izd-va; RAKHLINA, N.P., tekhn. red.

[Investigating the stressed state of hydraulic structures] Doslid-zhennia napruzhennoho stanu hidrotekhnichnykh sporud; sbirnyk nauko-vykh prats'. Kyiv, 1961. 149 p. (MIRA 14:10)

1. Akademiya nauk URSS, Kiev. Rada po vyvchenniu produktyvnykh syl URSS. 2. Chlen-korrespondent AN URSS (for Pyshkin). (Hydraulic structures)

ARISTOVSKIY, V.V. [Aristovs'kiy, V.V.], doktor tekhn.nauk

Seepage resistance of sandy bands and slopes. Visti Inst.gidrol.i
gidr.AN URSR 18:76-81 '61. (MIRA 15:3)
(Slopes (Physical geography)) (Seepage)

PYSHKIN, B.A., otv. red.; ARISTOVSKIY, V.V., doktor tekhn.nauk, prof.,
red.; RUSAKOV, S.V., kand. tekhn. nauk, red.; MAKSIMCHUK,
V.L., kand. tekhn. nauk, red.; TSAYTS, Ye.S., kand. tekhn.
nauk, red.; PECHKOVSKAYA, O.M., red.; LIBE:MAN, T.R., tekhn.
red.

[Changes in the banks of reservoirs] Pererabotka beregov vodo-
khranilishch. Kiev, Izd-vo Akad. nauk USSR, 1962. 140 p.
(MIRA 15:11)

1. Akademiya nauk URSR, Kiev. Rada po vyvchenniu produktyvnykh
syl. 2. Chlen-korrespondent Akademii nauk Ukr. SSR (for Pyshkin).
(Reservoirs) (Coast changes)

ARISTOVSKIY, Valer'yan Valer'yanovich [Arystovs'kyi, V.V.], doktor tekhn. nauk; SLOBODYAN, Roman Tikhonovich, kand. tekhn. nauk; DIDKOVSKIY, M.M. [Didkovs'kyi, M.M.], kand. tekhn. nauk, otv. red.; REVERA, O.Z., kand. geogr. nauk, nauchnyy red.; DAKHNO, Yu.M., tekhn. red.

[Stability of the Kakhovka Reservoir shores undergoing deformations caused by subsidences and slides] Stiikkist' berehiv Kakhovs'koho vodoskhovyscha, shcho zaznaiut' szuvnykh ta prosadochnykh deformatsii. Kyiv, Vyd-vo Akad. nauk URSR, 1962. 145 p. (MIRA 15:11)

(Kakhovka Reservoir--Coast changes)

ARISTOVSKIY, V.V., doktor tekhn.nauk, prof.; TSERAPNIYER, L.S., inzh.;
LAPINE, L.V., inzh.; YEFREMOVA, Ye.A., inzh.

"German-Russian hydraulic engineering dictionary" edited by M.M.
Grishin. Reviewed by V.V.Aristovskii and others. Gidr. stroi.
33 no.5:62-63 My '63. (MIRA 16:5)

(Hydraulic engineering—Dictionaries)
(German language—Dictionaries—Russian) (Grishin, M.M.)

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CIA-RDP86-00513R00010201

ARITON, N.

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ARITON, N.
RUMANIA/Analytical Chemistry - Analysis of Inorganic Substances. E-2

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 24775

Author : Popper, E., Ariton, N., Popa-Craciuneanu, R.

Inst : Rumanian Academy.

Title : Rapid Semi-Micro Method of Gravimetric Determination of Lead.

Orig Pub : Studii si cercetari chim. Acad. RPR Fil. Cluj, 1956, 7, No 1-4, 85-88

Abstract : In the synthesis of 2-mercapto-5-anilono-1,3,4-thiodiazole used in the determination of Pb^{2+} and Hg^{2+} (RZhKhim, 1958, 24757, 24774), there is obtained as an intermediate product the anilide of hydrazine-N,N'-bis-thiocarboxylic acid (I), which is a white crystalline substance, MP 192-193°, readily soluble in pyridine, acetone and alkalies, less soluble in C_2H_5OH and insoluble in water.

Card 1/2

3

RUMANIA/Analytical Chemistry - Analysis of Inorganic Substances.

E-2

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 24775

I precipitates quantitatively Pb^{2+} in the form of a yellow crystalline precipitate which is suitable for a gravimetric determination of Pb. To 0.5-5 ml of the solution being analyzed, containing not more than 200 μ /ml Pb^{2+} are added about 20 ml C_2H_5OH , 0.2% alcoholic solution of I [sic] and the mixture is allowed to stand for 1 hour. The resulting precipitate is filtered off, washed, first with alcohol then with ether, dried in a vacuum desiccator, and weighed. I precipitates also Ag^+ , Hg_2^{2+} , Hg^{2+} , Bi^{3+} , Cu^{2+} , Co^{2+} , Ni^{2+} , Fe^{2+} , Mn^{2+} and Cr^{3+} . Alkali and alkaline earth metals do not interfere. Duration of determination of Pb is 1.5-2 hours; error $\pm 0.4\%$.

Card 2/2

ARITON, N.

RUMANIA/Analytical Chemistry - Analysis of Onorganic Substances. E-2

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 24757

Author : Pepper, E., Ariton, N., Proinov, L., Craciuneanu, R.

Inet : -

Title : New Rapid Method of Gravimetric Determination of Mercury

Orig Pub : Rev. chim., 1957, 8, No 9, 594-596

Abstract : For the determination of Hg^{2+} use is made of a new reagent 2-mercapto-5-anilino-1,3,4-thiodiazole (I) (RZhKhim, 1958, 24774), which is a white-yellow powder, MP 215-216°, readily soluble in C_2H_5OH , less soluble in alkalies and insoluble in water. I precipitates Ag^+ , Pb^{2+} , Hg^{2+} , Hg^{++} , Bi^{3+} , Cu^{2+} , Co^{2+} and Fe^{3+} . Hg^{2+} ions form with I a yellow precipitate insoluble in C_2H_5OH and in ether and suitable for gravimetric determination of Hg. The solution being analyzed, containing Hg as $HgCl_2$ or $Hg(NO_3)_2$ (concentration of free HNO_3 not above 0.2-0.3 N), is diluted with twice its volume of C_2H_5OH , and Hg^{2+} is precipitated with

Card 1/2

RUMANIA/ Analytical Chemistry - Analysis of Inorganic Substances. E-2

Abs Jour : Ref Zhur O Khimiya, No 8, 1958, 24757

a 5% alcohol solution of I under continuous stirring. Solution and precipitate are heated on a water bath until the amorphous precipitate becomes crystalline, filtered immediately through a filter crucible No 5 or No 4, the precipitate is washed with alcohol and ether, dried in a vacuum-desiccator and weighed. If the concentration of HNO in the solution being analyzed is above 0.3 N the solution is evaporated to dryness and the residue is dissolved in water acidified with HCl. The minimum determinable amount of Hg^{2+} is 40/ml. Duration of determination is from 45 minutes to 2 hours; error $\pm 0.54\%$. The method is suitable for determination of Hg in medicinals.

Card 2/2

19

COUNTRY : Rumania H-17
 CATEGORY :
 ABS. JOUR. : RZKhim., No. 21 1959, No. 75793
 AUTHOR : Popper, E., Arition, M., Proinov, L., and Craciunea
 INST. : Not given
 TITLE : The Analysis of Mercury Medicinal Preparations by
 a Rapid Gravimetric Method Using 2-Mercapto-5-
 Anilino-1,3,4-Thiodiazole
 ORIG. PUB. : Farmacia (RPR), 6, No 6, 491-498 (1958)
 ABSTRACT : A new gravimetric is proposed for the determina-
 tion of Hg in medicinal preparations, using 2-
 mercapto-5-anilino-1,3,4-thiodiazole. The above-
 indicated reagent is very sensitive (accurate
 determinations of Hg in medicines are possible
 at minimum concentrations of Hg of 40 gammas per
 ml), it is readily prepared, and can be used in
 any analytical laboratory. The authors propose
 the substitution of the above-described method
 for the official methods in the analysis of a num-
 ber of medicines listed in the Rumanian Pharmaco-
 poeia.
 From authors' summary
 CARD: 1/1 nu, R.
 219

ACC NR: AP7005131

(A)

SOURCE CODE: UR/0126/66/022/004/0556/0562

AUTHOR: Yeghyan, K. A.; Arityunyan, R. G.

ORG: none

TITLE: Coercive force of thin ferromagnetic films as a function of certain factors

SOURCE: Fizika metallov i metallovedeniye, v. 22, no. 4, 1966, 556-562

TOPIC TAGS: magnetic thin film, ferromagnetic film, iron nickel alloy, magnetic coercive force

ABSTRACT: The nature of the coercive force H_c of thin films is as yet inadequately understood, and previous studies of H_c investigated its dependence on only some one factor or another rather than on several factors. To fill this gap, the authors investigated the dependence of H_c on a number of factors: composition of binary Fe-Ni alloy film (varying from 75% Ni and 25% Fe to 84% Ni and 16% Fe); dependence of H_c on substrate temperature (150-350°C); dependence of H_c on film thickness (700-2700 Å); dependence of H_c on the anisotropy field H_k and its angular dispersion φ . Only uniaxially anisotropic films were considered. The films were obtained by the vacuum evaporation method in $1-2 \cdot 10^{-5}$ mm Hg at the rate of 120-160

Card 1/2

UDC: 539.216.2:538.248

ACC NR: AP7005131

°/min, with deposition on ordinary glassslides. Hysteresis properties were measured with the aid of a ferrotester at a frequency of 1200 cps. H_c was determined in a field of 5 oe; H_k , by the extrapolation method; and φ , by the Krouter pulsed method. The magnetoelastic constant was determined according to the dependence of H_k on relative elongation. Findings: under specific experimental conditions there exists a direct relationship between the variations in H_c and angular dispersion. E.g. the minima of both these quantities coincide for the alloys with the composition 75% Ni + 25% Fe. For films 700 to 2700 Å thick $H_c \sim d^{-2/3}$. The increase in φ with increase in film thickness in this case is associated with the increase in the demagnetizing field of the specimen. The mechanism of action of such angular dispersion on the properties of the films differs from that of the conventional structural increase in φ . In particular, in this case a rise in φ leads to a decrease rather than increase in H_c . The anisotropy field H_k contributes to the magnitude of H_c only in the region $H_c/H_k > 0.8$. When $H_c/H_k < 0.5$ the variation in H_k does not lead to variation in H_c . It is assumed that this relationship is conditioned by the change in the mechanism of the reversal of films along the easy axis with increase in the ratio H_c/H_k . "The authors are indebted to Professor R. V. Telesnin for discussion of this project." Orig. art. has: 7 figures.

SUB CODE: 44 20/ SUBM DATE: 08Jan66/ ORIG REF: 003/ OTH REF: 009

Card 2/2

ARIUN L I
AI IUV, L.I. (Moskva)

Ira Thompson van Gieson; on the 50th anniversary of his death.
Ark. pat. 25 no.10:51-52 '63. (MIRA 17:7)

1. Iz kafedry patologicheskoy anatomii (zav. - chlen-korrespondent AMN SSSR prof. A.I. Strukov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.

ARIYA, S. M.

Annual Scientific Session of Leningrad University in 1951, P.G.Makarov, T.A. Agekyan, G. Drakarev, N. Yanovskaya, S.V.Golodnikov, and S.M.Araya, Vest Leningrad U, Ser Mat, Fiz, Khim, Vol 7, no 2, pp 184-190, Feb 52.

The annual scientific session of Leningrad University took place 4-20 February 1952. The Math Section was subdivided into math, mechanics, and astronomy; the physics composed also geophysics. The Chemistry Section dealt also with cooperation with industry.

PA 251T98

ARIYA S.M.

Velikii zakon prirody (Great law of nature). Periodicheskaya sistema elementov Mendeleeva i ee znachenie v nashi dni. Moskva, Detgiz, 1953. 111p.

SO: Monthly List of Russian Accessions, Vol 7, No. 8, Nov. 1954

Active SM

4

When the system is in the active state, the system is in a state of readiness to receive and process data. The system is in a state of readiness to receive and process data. The system is in a state of readiness to receive and process data.

Allyl M.

...the ...
...and ...
...sponge with 10-20% ...
...pressures, and the process ...
...and ... The results of ...
...process of ...

SHCHUKAREV, S.A.; ARIYA, S.M.; LAKHTIN, G.I.

Thermochemistry of magnesium compounds with the elements of the
main subgroup of the fifth group. Vest. LGU 8 no.2:121-126
F '53. (MIRA 12:7)
(Magnesium compounds) (Thermochemistry)

ARIYA, S.M.

4

Chromium dioxide, its preparation, properties, and enthalpy of formation. S. M. Ariya, S. A. Shelukarev, and V. B. Glushkova. Zh. Obshch. Khim. 23, 1241-5 (1953).—CrO₂, prepd. by the decompn. of CrO₃ at 420-450° under an O₂ pressure of 200-300 atm., has a tetragonal crystal structure and the dimensions of the elementary cell are $c = 5.77 \pm 0.02$ Å, $a = 4.394 \pm 0.15$ Å. ($c/a = 1.31$). The cell contains 4 Cr atoms and 8 O atoms. CrO₂ is ferromagnetic with a Curie temp. of 115°. Values of the magnetic permeability above the Curie temp. show that the compd. is a true dioxide and not a mixed oxide (Cr₂O₃·CrO₂). The enthalpy for the formation of CrO₂ is 139.4 ± 0.5 kcal. J. Roxtar Leach

MAF 2004

ARIYA, S. M.

USSR/Chemistry - Platinum Oxides

Sep 53

"Investigation of the System Platinum-Oxygen. II. Enthalpy of the Formation of the Platinum Oxide Pt_3O_4 ," S.M. Ariya, M.P. Morozova and A.A. Reykhardt, Chair of Inorg Chem, Leningrad State U.

Zhur Obshch Khim, Vol 23, No 9, pp 1455-1458

By means of a calorimetric detn of the enthalpy of the reaction $[PtO_{1.39}] + 1.39(H_2) = [Pt] + 1.39H_2O$, the magnitude of the enthalpy involved in the formation of platinum oxide was found: $\Delta H_{PtO_{1.39}} = -13.6 \pm 1.1$ kcal. The indicated magnitude agrees

268T25

with the results of an investigation into the equilibrium of the process of dissociation of platinum oxide.

268T25

Ariya, S.M.

7. The enthalpy of sublimation of chromium anhydride and
molybdenum anhydride. S. M. Ariya, S. Y. Shchegolev

~~and V. B. Zhukova (A. A. Zolotarev State Univ., Leningrad)~~

~~Usp. Khim. 47:10, 1978, p. 1711-1712. 2 refs.~~

~~Chem. Abstr. 88:10, 1978, p. 1711. 2 refs.~~

~~Usp. Khim. 47:10, 1978, p. 1711. 2 refs.~~

~~Chem. Abstr. 88:10, 1978, p. 1711. 2 refs.~~

ARIYA, S. M.

USSR/Chemistry - Physical chemistry

Card 1/1 Pub. 151 - 7/36

Authors : Ariya, S. M.; Morosova, M. P.; and Shneyder, L. A.

Title : Thermodynamics of oxide phases of various composition. Part 1.- On the thermodynamics of FeO

Periodical : Zhur. ob. khim. 24/1, 41-47, Jan 1954

Abstract : The equilibrium of the FeO reduction process with CO₂/CO mixtures was investigated at 1104 and 1182°K. The constant of the equilibrium process in the investigated temperature range was found to be practically independent from the temperature in zones of FeO homogeneity. It was established that the dependence of the equilibrium pressure of atomic oxygen upon the composition of the solid phase does not respond to the Henry law and that the entropy of FeO, computed per 1 g/atom, increases somewhat in accordance with the increase in oxygen content of that particular phase. The enthalpy values for the formation of various types FeO, at standard conditions, were determined. Six references: 3-USA; 2-German and 1-USSR (1922-1949). Tables; graphs.

Institution : The A. A. Zhdanov State University, Leningrad

Submitted : August 8, 1953

ARIYA, S.M.

6

✓Metal nitrides. II. Strontium and barium subnitrides.
S. M. Ariya, E. A. Piontseva, and I. I. Matveeva (Leningrad State Univ.). *Zhur. Obshchei Khim.* 25, 634-6 (1955);
cf. C.A. 49, 12522s. —The existence of Sr_3N and Ba_3N was
established. Calorimetric detn. gave for the enthalpy of
formation of Ba_3N -53.4 ± 2 kcal./mole. J. R. L.

2

10/03

ARIYA, S.M.; PROKOF'YEVA, Ye.A.

Investigation of metal nitrides. Part 3. Phase diagram of Ba-N systems in the high-pressure range. Zhur.ob.khim.25 no.5:849-851 My'55. (MLRA 8:10)

1. Leningradskiy Gosudarstvennyy universitet
(Barium compounds) (Nitrides)

"APPROVED FOR RELEASE: Thursday, July 27, 2000

CIA-RDP86-00513R00010201

AK 42, 5, 4.

APPROVED FOR RELEASE: Thursday, July 27, 2000

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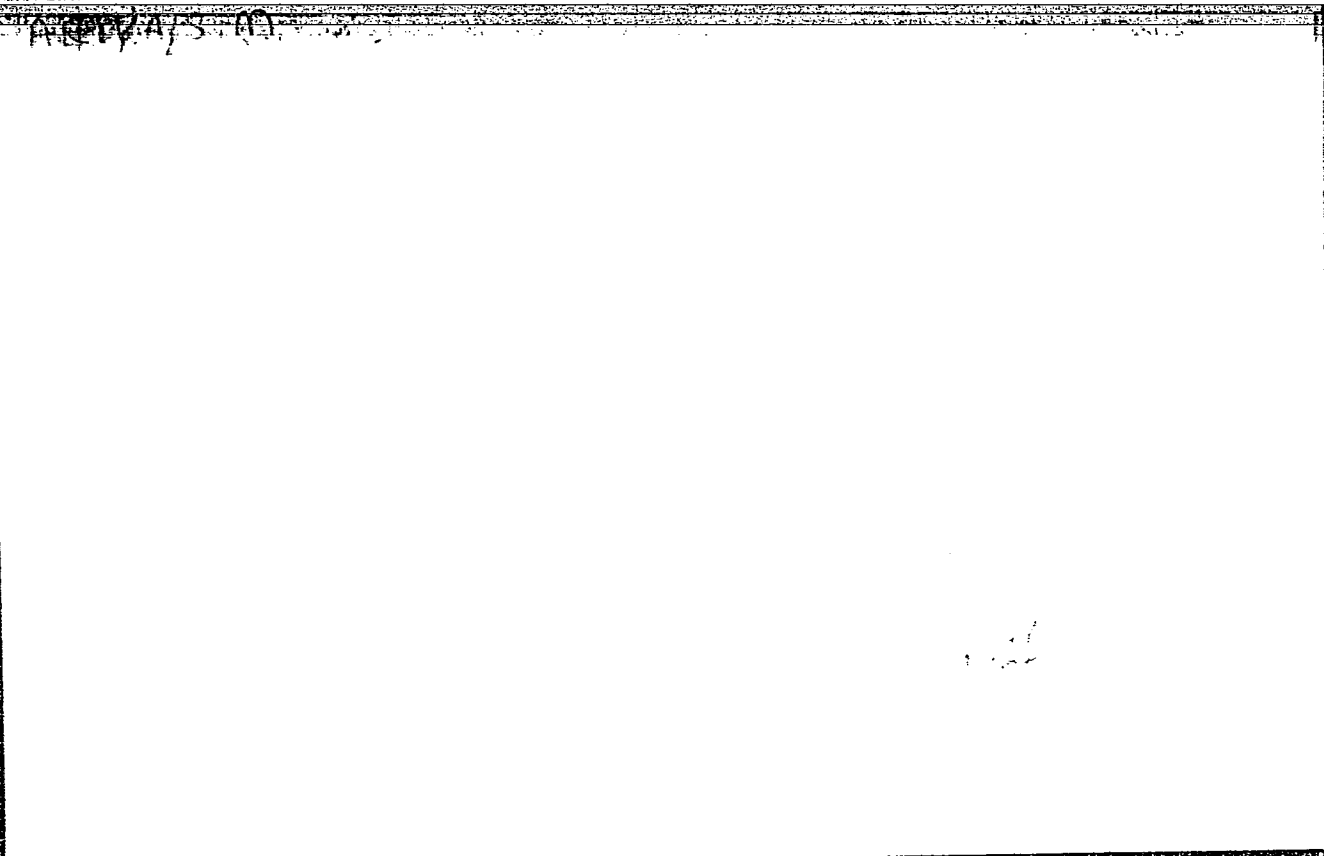
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ARIVA, S M.

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CIA-RDP86-00513R000102010

ARIYA, S.M.; ZASLAVSKIY, A.I.; MATVEYEVA, I.I.

Chemistry of the compounds of a variable composition. Part 4.
System tantalum - selenium. Zhur.ob.khim. 26 no.9:2373-2375
S '56. (MLRA 9:11)

1. Leningradskiy gosudarstvennyy universitet.
(Tantalum) (Selenium)

"APPROVED FOR RELEASE: Thursday, July 27, 2000

CIA-RDP86-00513R00010201

801/2 - 2

APPROVED FOR RELEASE: Thursday, July 27, 2000

CIA-RDP86-00513R00010201(

ARIYA, S.M.; KOLBINA, Ye.M.; APURINA, M.S.

Chemistry of compounds of variable composition. Part 7: The system
cobalt--tellurium and the enthalpy of cobalt telluride formation.
Zhur. neorg. khim. 2 no.1:23-29 Ja '57. (MLBA 10:4)
(Cobalt tellurides) (Enthalpy) (Systems (Chemistry))

79-2-3/58

AUTHORS: Ariya, S. M.; Morozova, M. P.; Khuan Tszai-Tao; Vol'f, E.

TITLE: The Enthalpy of Formation of Lithium, Magnesium and Zinc Arsenides
(Ental'piya obrasovaniya arsenidov litiya, magniya i tsinka)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, Vol. 27, No. 2, pp. 293-295 (U.S.S.R.)

ABSTRACT: The formation enthalpies of lithium, magnesium and zinc arsenides were experimentally established at -81.3 ± 2 , -96 ± 3 and -30.5 ± 3 kcal/g respectively. Numerous facts are cited indicating that the formation enthalpy value of arsine is in agreement with the data on the thermal stability of arsenides. Li_3As appears to be a somewhat more exothermal compound than Li_3Sb which is in conformity with the fact of displacing the Sb by As from the combination with Li.

Card 1/2

There are 7 references, of which 4 are Slavic.

Ariya, S.M.
USSR/Physical Chemistry - Thermodynamics, Thermochemistry, B-8
Equilibria, Physical-Chemical Analysis, Phase Transitions.

Abs Jour : Referat Zhuz Khimiya, No 1, 1958, 352

Author : C.M. Ariya, M.P. Morozova, S.A. Shchukarev.

Inst :

Title : Enthalpies of Formation of Binary Compounds of Elements
of Main Subgroup of V Group. Phenomenon of Secondary
Periodicity.

Orig Pub : Zh. obshch. khimii, 1957, 27, No 5, 1131-1136

Abstract : The phenomenon of the secondary periodicity (Biron Ye.V.,
Zh. Russk. khim. o-va, 1915, 47, 964) of properties of
elements of the main subgroups of the periodical system
was investigated on the example of the course of enthal-
py formations ΔH of elements of the main subgroup of the
V group. The course of the ΔH changes is periodical
in some cases and monotonous in other. In connection
with the above, the valency states of atoms and the

Card 1/2

"APPROVED FOR RELEASE: Thursday, July 27, 2000

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APPROVED FOR RELEASE: Thursday, July 27, 2000

CIA-RDP86-00513R00010201(

ARIYA, S.M.; YEROFEYEVA, M.S.; MOCHALOV, G.P.

Magnetic susceptibility of strontium subnitride. Zhur.ob.khim.
27 no.7:1740-1743 J1 '57. (MIRA 10:10)

1.Leningradskiy gosudarstvennyy universitet.
(Strontium nitride--Magnetic properties)

ARIYA, S. M.

USSR/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria,
Physical-Chemical Analysis, Phase Transitions.

B-8

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 7123.

Author : S.M. Ariya, Kan Kho-yn, Yu. Barbanel', G.M. Loginov.

Inst :

Title : Enthalpy of Strontium Arsenide Sr_3As_2 Formation.

Orig Pub: Zh. obshch. khimii, 1957, 27, No 7, 1743-1745.

Abstract: Sr_3As_2 (I) was prepared by the interaction of the components at 400° in an evacuated glass tube and it was homogenized at 900° later. The pressure of As vapors on preparations of various composition was investigated by Knudsen's effusion method. The vapor pressure is minimum on I and it rises with the rise of As percentage in the preparations. The I formation enthalpy was determined from the data on I solubility in hydrochloric acid and on enthalpy magnitude of I interaction with

Card : 1/2

-11-

AUTHORS: Ariya, S. M., Morozova, M. P. SOV/79-28-10-1/60

TITLE: Properties of Salt-Like Compounds of Variable Composition, and Ideas of Their Chemical Structures (Svoystva soleobraznykh soyedineniy peremennogo sostava i predstavleniya o ikh khimicheskoy stroyeni)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 10, pp 2617 - 2623 (USSR)

ABSTRACT: One of the most important problems in general chemistry is whether a chemical compound has a constant or variable composition; which compounds represent considerable deviations from the stoichiometric composition, and how far these deviations are possible. The publications by N.S.Kurnakov exerted a considerable influence on the modern concept of the chemical structure. The rapid development of the x-ray structure analysis of solids made it possible to approach the rules proposed by Kurnakov. It was pointed out that the compounds of variable composition radiographically represent subtraction, affiliation or substitution lattices (Refs 1-8). Typical compounds of this type are FeO_{1+x} , TiO_{1+x} and VO_{1+x} which

Card 1/3

Properties of Salt-Like Compounds of Variable
Composition, and Ideas of Their Chemical Structures

SOV/79-28-10-1/60

are looked upon as defect structures of the NaCl type. The task of the present paper was to determine the dependence of some properties, first of all of the thermodynamic characteristic features, of the composition in some binary systems with compounds of variable composition. The investigation of the different types of dependences of some properties on the composition in these systems, as well as the thermodynamic investigation of the problem of the chemical structure of compounds of variable composition, lead to the conclusion that in the lattices of these compounds a segregation (of different power) of the atoms of the element of the substituting subgroup takes place with the atoms being in different states of valence. In short: The lattices of these variable compounds can have a submicro-unequal structure in different cases, i.e. remain monophase in the thermodynamical sense of the word. The part of the elements in this structure must depend on the nature of the compound on the temperature, as well as on the degree of deviation of these compounds

Card 2/3

Properties of Salt-Like Compounds of Variable
Composition, and Ideas of Their Chemical Structures

SOV/79-28-10-1/60

with respect to the stoichiometric composition. There
are 5 figures and 20 references, 13 of which are Soviet.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad
State University)

SUBMITTED: December 31, 1957

Card 3/3

~~24(3)~~ 24.7700

66247

SOV/181-1-7-3/21

AUTHORS:

Ariya, S. M., Bogdanova, N. I.

TITLE:

Electrical Conductivity of Some Titanium and Vanadium Oxides

PERIODICAL:

Fizika tverdogo tela, 1959, Vol 1, Nr 7, pp 1022-1026 (USSR)

ABSTRACT:

Some time ago, it was supposed that some inconstant compounds, especially a series of oxides possess a submicroscopic inhomogeneous structure, e.g. that atoms of the trivalent titanium form accumulations, so-called "islets" in the lattice of titanium protoxide (TiO_{1+x}). It was the intention of the author to explain whether the dependence of the electrical conductivity with regard to the composition in the system $TiO_{1.00}-TiO_{1.50}$ matches the above assumption. Conductivity measurements in vanadium oxides within the limits of $VO_{1.50}-VO_{2.00}$ were performed, because within this zone numerous discrete intermediate compounds occur. The conductivity was investigated till $600^{\circ}C$ by means of a potentiometer sonde. The results are reproducible in a satisfactory way taking account of the poly-crystalline sintered nature of the samples. The dependence of conductivity in vanadium oxides

Card 1/3

Electrical Conductivity of Some Titanium and Vanadium Oxides

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SOV/181-1-7-3/21

on their composition (Fig 1) shows, that the conductivity of discrete intermediate compounds, in which the vanadium occurs in 3- and 4-valent formation, is different from the conductivity of a V_2O_3 and VO_2 mixture. The electrical conductivity of titanium oxide within the limits of $TiO_{1.00}-TiO_{1.50}$

equals almost the conductivity of a $TiO_{1.00}$ and $TiO_{1.50}$ mixture (Fig 2). The shape of the curve of the dependence of conductivity on the composition of that part within the homogeneous range of titanium protoxide ($TiO_{1.00}-TiO_{1.20}$), that is rich in oxygen, is very similar to the shape of the curve within the range of $VO_{1.00}-VO_{1.67}$. The latter corresponds to the heterogeneous range of the system V-O according to the radiographical data by Anderson and according to results of thermodynamical and magnetic investigations made by the authors (the thermodynamical investigations were shared by Yu. T. Popov). Consequently, the results of conductivity measurements are not contrary to the assumption of a sub-microscopical inhomogeneous structure of the lattice

Card 2/3

5 (2)

AUTHORS:

Vol'f, E., Ariya, S. M.

SOV/79-29-8-3/81

TITLE:

Enthalpy of Formation of Vanadium Oxides

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 8, pp 2470 - 2473
(USSR)

ABSTRACT:

The vanadium oxides necessary for the investigation were prepared in a special furnace at $1,600^{\circ}$ by fusing the mixtures of the pulverized, hydrogenized vanadium and vanadium oxide which had been pressed into tablets. The analysis of the preparations obtained was made by determination of the weight gained in their oxidation to V_2O_5 . The radiographic investigation of the preparations showed that under these conditions the range of homogeneity of the vanadium suboxide lies within the interval $VO_{0,86} - VO_{1,27}$. The heats of combustion of vanadium oxide were determined calorimetrically using small quantities (0,1-0,2 g) and an oxygen pressure of 42 atm. The gross composition of the combustion product was determined by the weight gained in oxidation. Results obtained in the determination of the heats of combustion (Q,p) of vanadium oxide and of metallic vanadium (with corrections) and the heats of formation of the various

Card 1/2

Enthalpy of Formation of Vanadium Oxides

SOV/79-29-8-3/81

compositions computed from them are shown in table 1. The heats of formation hitherto determined of the vanadium oxides VO_4 , V_2O_3 , VO_2 , and V_2O_5 differ considerably from each other. In table 2 the data obtained by the authors are compared with those given in publications. They correspond well to those by H. Siemonsen and to those suggested by the American Bureau of Standards if the sources of errors are taken into consideration. Thus, it was ascertained that the heat of formation of vanadium suboxide changes steadily with the composition, as is the case with titanium suboxide. This regularity is not in contradiction to the concept of the inhomogeneous submicroscopic structure of the lattice of some oxides of variable composition. There are 1 figure, 2 tables, and 9 references, 7 of which are Soviet.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: July 11, 1958

Card 2/2

24.7800

AUTHORS:

Ariya, S. M., Grossmann, G.

TITLE:

The Magnetic Susceptibility of Solid Solutions¹⁶ of Vanadium Dioxide in Titanium Dioxide

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 6, pp. 1283 - 1286

TEXT: The present paper makes a contribution to the plan of a systematic investigation of the magnetic properties of oxides of varying composition. The samples were obtained by continuous heating of VO_2-TiO_2 powder mixtures at $800^\circ C$ in well-evacuated quartz ampoules. After preliminary annealing during 24 hours the material was pulverized once more and again heated for a period of 24 hours. The magnetic susceptibility was then measured, which was again followed by pulverization and heating for 100 hours. As shown by a subsequent susceptibility measurement, its value had not changed. The samples obtained were investigated by X-ray examination at the Roentgenographical Laboratory of the khimicheskii fakul'tet LGU (Chemical Department of Leningrad State University) by Ye. V. Stroganov and I. I. Kozhina. The method of susceptibility measure-

Card 1/3

81648

The Magnetic Susceptibility of Solid Solutions
of Vanadium Dioxide in Titanium Dioxide

S/181/60/002/06/38/050
B006/B056

ment is described in Ref. 1. Results are given in tables and diagrams. Fig. 1 shows the temperature dependence of χ within the range of 20-90°C for samples with different (30-100%) VO_2 content; the corresponding numerical values are given in Table 1. Table 2 gives the values of the susceptibilities (χ), of the constants of the Curie-Weiss law, and the effective magnetic moments for pure VO_2 , pure TiO_2 , and samples with 20 and 10 mole% VO_2 . Fig. 2 shows the dependence of the paramagnetic component of χ per gram-atom of vanadium on the VO_2 concentration at different temperatures. The curves show that the susceptibility of solid $\text{VO}_2\text{-TiO}_2$ solutions is not additively composed of the susceptibilities of the components. Fig. 3 shows the temperature dependence of the reciprocal susceptibility of 4 samples of different composition. The results are briefly discussed, and are compared with those obtained by Rüdorff (Refs. 6,7). There are 3 figures, 2 tables, and 7 references: 1 Soviet, 4 German, 1 French, and 1 American.

Card 2/3

84597

S/181/60/002/010/020/051
B019/B056

24,7900 (1055,1144,1160)

AUTHORS: Grossmann, G. and Ariya, S. M.

TITLE: The Magnetic Susceptibility of a Solid Solution of Ferrous
Oxide in Magnesium Oxide

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 10, pp. 2477-2479

TEXT: The authors investigated the susceptibility of three preparations ($\text{FeO}_{1.048} \cdot 0.487\text{MgO}$, $\text{FeO}_{1.080} \cdot 0.487\text{MgO}$ and $\text{FeO}_{1.5} \cdot 0.487\text{MgO}$) within the temperature range of from 700 to 900°C. The production of the preparations has been described earlier (Ref. 4). The magnetic susceptibility of ferrous oxide is a linear function of composition and it may be seen from the experimental results shown by the Fig. that the straight line, which characterizes the susceptibility of the two compositions $\text{FeO}_{1+x} \cdot \text{MgO}$, on extrapolation up to the composition $\text{FeO}_{1.00} \cdot 0.487\text{MgO}$ leads exactly to that value, to which the analogous straight lines for FeO_{1+x} and

Card 1/2

KOLBINA, Ye.M. [deceased]; BARBANEL', Yu.A.; NAZAROVA, M.V.; ARIYA, S.M.

Thermodynamics of lower cobalt sulfides. Vest. LGU 15 no.4:122-129
'60. (MIRA 13:2)

(Cobalt sulfide) (Thermodynamics)

5.4100

77340
SOV/79-30-1-1/78

AUTHORS: Bogdanova, N. I., Ariya, S. M.

TITLE: Composition of Higher Oxides of Vanadium According to
Their Electric Conductivity Data

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 1, pp 3-7
(USSR)

ABSTRACT: The binary compounds whose structures apparently contain
atoms of a metal in different valence states and whose
compositions, consequently, cannot be expressed by using
whole valence numbers, are termed "mixed" compounds.
Vanadium oxides have been known to be among them since
G. Anderson's X-ray investigations (Acta Chem. Scan.,
8, 1599, 1954). He and other investigators found dis-
crete "mixed" compound of VO_n composition with frac-
tional n values such as 1.67, 1.75, 1.80, 1.84, 1.86,
1.87, 2.17; α -phase with n = 1.71- 2.0; α' -phase with
n = 2-2.23; β -phase with n = 1.67-1.79; γ -phase with

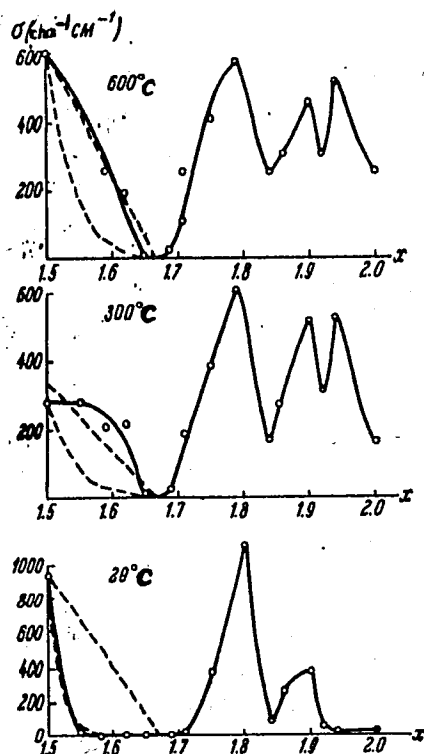
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Composition of Higher Oxides of Vanadium
According to Their Electric Conductivity
Data

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n up to 1.5. The authors examined the electric conductivity of the compounds, whose n varied from 1.5 to 2.0. The samples were prepared by a 4-stage treatment: (1) reduction of very pure V_2O_5 to V_2O_3 with thoroughly purified electrolytic H_2 at temperatures gradually raised up to $900^\circ C$; (2) annealing of $V_2O_3 + V_2O_5$ mixture under vacuum at $700^\circ C$ for 10 hr, then at $900^\circ C$ for 20 hr; (3) compression of the annealed and powdered mixture into tablets under $10,000 \text{ kg/cm}^2$ pressure; (4) sintering at $1,600^\circ C$ in a high-vacuum high-frequency furnace. The composition of the sintered tablets was determined according to the weight increase (oxygen consumption) on oxidation to V_2O_5 . The electric conductivities, measured with a potentiometer under vacuum at $20^\circ C$ to $600^\circ C$, are shown in Fig. 1 and 2. The first 3 of the maxima and minima in Fig. 1 correspond to the known discrete compounds with $n = 1.67, 1.80, 1.84$,

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Fig. 1. Specific conductance σ of vanadium oxides as function of their composition (dotted lines limit area within which values of σ of $\text{VO}_{1.5} + \text{VO}_{1.67}$ mixtures can be found).

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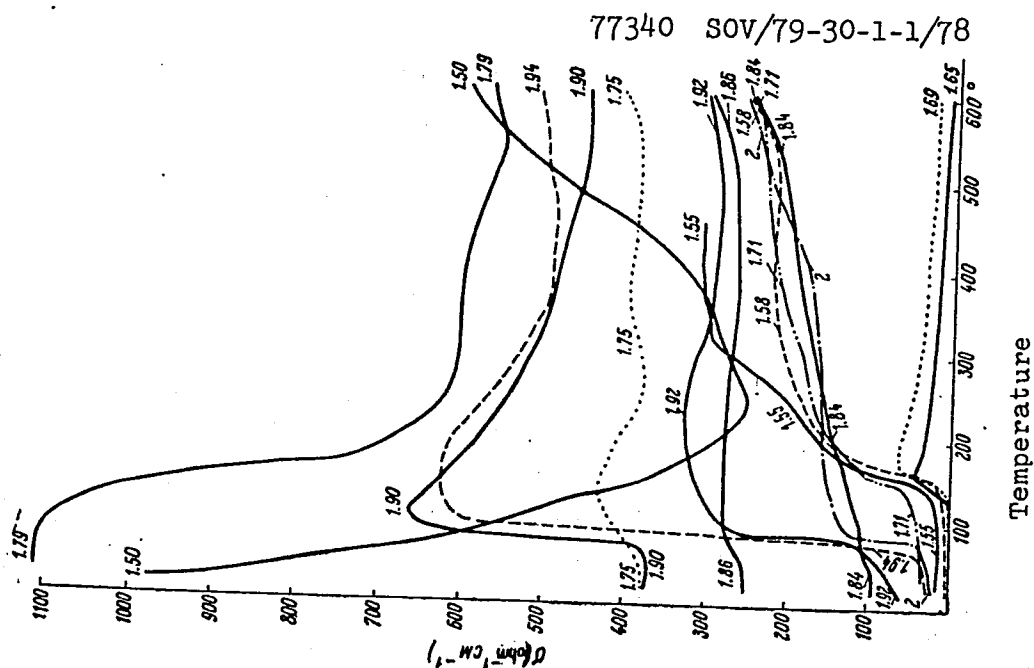


Fig. 2. Dependence of specific conductance of vanadium oxides on temperature.

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Composition of Higher Oxides of Vanadium
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while the origin of peaks at $n = 1.90$ and $n = 1.94$, and of dip at $n = 1.92$ is still unknown; perhaps they also indicate discrete compounds, the possibility of whose existence was mentioned by Anderson. The n values from 1.50 to 1.67 seem to correspond to 2 phase systems. No solid solution with $n = 1.75$ is indicated in the σ vs. composition curve, but absence of an abrupt change in the conductivity of $VO_{1.75}$ at $160^\circ C$ and essentially differing $n = 1.75$ and $n = 1.79$ curves in Fig. 2 point to existence of a discrete compound with $n = 1.75$. Also, no compounds with $n = 1.86$ and $n = 1.87$ appear in the σ vs. composition curves. However, inspection of Fig. 2 permits one to assume a discrete compound or even 2 compounds at the interval from $n = 1.84$ to $n = 1.88$. There are 2 figures; 1 table; and 8 references, 3 German, 2 Soviet, 1 Danish, 1 Swiss, 1 Italian.

Card 5/6

ARIYA, S.M.; SOBOLEVA, M.S.

Lattice energies of oxides. Fiz.tver.tela 3 no.10:3157-3161 0
'61. (MIRA 14:10)

1. Leningradskiy gosudarstvennyy universitet imeni A.A.Zhdanova.
(Oxides) (Crystal lattices)

BOGDANOVA, N.I.; ARIYA, S.M.

Electric conductivity of lower vanadium oxides. Vest.LGU
16 no.16:143-147 '61. (MIRA 14:8)
(Vanadium oxide—Electric properties)

21999

S/076/61/035/004/004/018
B106/B201

15.2142

AUTHORS: Yerofeyeva, M.S., Lukinykh, N.I., and Ariya, S.M.

TITLE: Heat content of some titanium oxides at high temperatures

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 4, 1961, 772 - 775

TEXT: Several properties of compounds of a composition in the oxygen-rich part of the homogeneous titanium oxide phase ($TiO_{1.00} - TiO_{1.20}$) appear to be evidence of the fact that these compounds have the lattice of $TiO_{1.00}$ which contains submicroscopic inclusions of the composition $TiO_{1.50}$ (Ti_2O_3), statistically distributed at random. Because of the very small sizes of these inclusions, the whole system behaves as a homogeneous phase. If this assumption is correct, the heat capacity of such compounds must be equal to the heat capacity of a mixture of TiO and Ti_2O_3 of equal gross composition. In this connection, the authors examined the mean heat capacity of titanium oxides as a function of the composition at high temperatures. The titanium oxides were prepared by annealing mixtures of titanium

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Heat content of some titanium ...

hydride and titanium dioxide in high vacuum at 1300°C. The composition of the oxides was determined from the weight increase in the oxidation to titanium dioxide in an aqueous oxygen flow at 1000 - 1100°C. The heat contents were determined by an apparatus resembling the one described in Ref. 5 (J.C. Southard, J. Amer. Chem. Soc., 62, 3112, 1941). For a test of the apparatus, the heat content of α -Al₂O₃ was measured at 200-800°C; the results were found to be in agreement with data available in the literature. The heat content of the titanium oxides was measured at 220°, 412°, 604°, and 809° C. The mean heat capacity of homogeneous compounds having a composition between TiO_{1.00} and TiO_{1.20} was found practically to coincide with the mean heat capacity of the mixture of TiO_{1.00} and TiO_{1.50} of equal gross composition. This result is not, however, explained by the fact that titanium ions are found side by side in the same form as in pure TiO_{1.00} and TiO_{1.50} in the lattice of the compounds concerned. In fact, experiments have revealed that the mean heat capacity of TiO_{1.67} (Ti₃O₅), in the lattice of which trivalent and tetravalent titanium ions are mani-

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Heat content of some titanium ...

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festly present side by side, does not coincide with the mean heat capacity of a mixture of Ti_2O_3 and TiO_2 of equal gross composition. Similarly, neither the mean heat capacity of Fe_3O_4 coincides with the mean heat capacity of a mixture of FeO and Fe_2O_3 of equal gross composition. The reason for this is the structure sensitivity of the heat content. $Ti(III)$ and $Ti(IV)$ ions are in the lattice of $TiO_{1.67}$ subjected to structural conditions other than in the lattices of $TiO_{1.5}$ and TiO_2 , respectively. Similar considerations apply to $Ti(II)$ and $Ti(III)$ ions in the lattice of compounds of a composition between $TiO_{1.00}$ and $TiO_{1.20}$. The coincidence of the mean heat capacity of these compounds with the mean heat capacity of a mixture of TiO and Ti_2O_3 may be explained by the fact that the atoms of trivalent titanium are concentrated in the lattice of $TiO_{1.00}$ in the form of submicroscopic inclusions. The $Ti(III)$ atoms and also the oxygen atoms bound with them would have the same environment as in the lattice of Ti_2O_3 , and would therefore contribute to the heat capacity of TiO_{1+x} and

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Heat content of some titanium...

amount as much as corresponds to the heat capacity of the same amount of Ti_2O_3 . The number of Ti(III) atoms concentrated in the submicroscopic inclusions is as yet still unknown; this problem will be dealt with in a following paper. The fact is stressed here that while the abovementioned assumption explains satisfactorily the additive composition of the heat capacity of compounds between $TiO_{1.00}$ and $TiO_{1.20}$ by the heat capacities of $TiO_{1.00}$ and $TiO_{1.50}$, it cannot be taken as a proof that compounds of the structure TiO_{1+x} are actually submicroscopically heterogeneous. It has been found that the form of the dependence of the mean heat capacity of TiO_{1+x} compounds on the composition changes in the point of the stoichiometric composition ($TiO_{1.00}$). Similar changes have been observed also by other authors in the dependence of the formation enthalpies and of the volumes of the formulas expressed in g on compounds of the type TiO_{1+x} . There are 3 figures and 7 references: 6 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English language publication reads as Card 4/6

21999

S/076/61/035/004/004/018
B106/B201

Heat content of some titanium ...

follows: J.C. Southard, J. Amer. Chem. Soc., 62, 3112, 1941.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im.
A.A. Zhdanova (Leningrad State University imeni A.A.
Zhdanov)

SUBMITTED: July 13, 1959

Card 5/6

S/181/62/004/010/044/063
B102/B112

AUTHORS: Ariya, S. M., and Golomol'zina, M. V.

TITLE: Infrared spectra of titanium and vanadium oxides in the crystalline state

PERIODICAL: Fizika tverdogo tela, v. 4, no. 10, 1962, 2921-2924

TEXT: Since it is not possible to determine roentgenographically whether or not the vacancies and complexes of vacancies in lower crystalline titanium and vanadium oxides are randomly distributed, the effect of the oxygen content of these lower oxides on the IR spectra is studied. The spectra were taken with an MKC-14 (IKS-14) double-ray spectrometer. The oxides were added to pure KBr in a concentration of 0.1% and the mixture was pressed to tablets. The compounds $TiO_{0.94}$, $TiO_{1.00}$, $TiO_{1.17}$, $TiO_{1.5}$, $VO_{0.95}$, $VO_{1.15}$, $VO_{1.28}$ and $VO_{1.5}$ were studied. For titanium oxides, the most important lines and the general form of the IR absorption spectrum were found to agree with those of Ti_2O_3 , except that in the lower oxides the lines at 490 and 520 cm^{-1} are shifted towards 470 and

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Infrared spectra of titanium ...

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514 cm^{-1} respectively. The distinct 1080 cm^{-1} line is common to all oxides. For vanadium the lines of the lower oxides are consistent with those of V_2O_3 . These spectra, X-ray pictures, and a comparison with the IR spectra of other metal oxides indicate that all oxides are TiO_{1+x} and VO_{1+x} mixtures of pure metal and Me_2O_3 . Blokhin and Shuvayev (Izv. AN SSSR, ser. fiz.26, 1962), also, found that the TiO spectrum can be regarded as a superposition of the Ti and Ti_2O_3 spectra, but they gave a different explanation. There are 5 figures.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: June 12, 1962

Card 2/2

AUTHORS: Morozova, M. P., Khripun M. K. and Ariya, S. M.

S/079/62/032/007/001/007
1032/1232

TITLE: The enthalpy of carbides and oxycarbides of titanium

PERIODICAL: Zhurnal obshchei khimii, v. 32, no. 7, 1962, 2072-2076

TEXT: The enthalpy of three titanium carbides, ranging in composition from $TiC_{0.79}$ to $TiC_{1.00}$, and of six different titanium oxycarbides ranging between the compositions $TiC_{0.15}O_{0.096}$, $TiC_{0.42}O_{0.118}$ and $TiC_{0.74}O_{0.059}$, was calculated from the heat of combustion of these compounds, determined calorimetrically, and from the known enthalpies of TiO_2 and CO_2 . The value of the enthalpy of formation of TiC is given as -55 ± 0.3 Kcalories per mole. This result is compared with that given by Humphry. The dependence of the enthalpy on the index at the C atom in the composition interval $TiC_{1.00} - TiC_{0.79}$ is found to be linear. The enthalpy of oxycarbides TiC_xO_y is found to be equal to the sum of the enthalpies of TiC_x and TiO_y . Hence it is inferred that the coexistence of Ti-C and Ti-O bonds in the lattice of oxycarbides has practically no effect on the energy of these bonds. There is 1 figure and 3 tables. English-language references read: K. K. Kelley, U. S. Bur. Mines Rept. Invest, No. 5316, 33 (1957). J. Humphry, J. Am. Chem. Soc., 73, 2261 (1951).

ASSOCIATION: Leningradskii gosudarstvennyy universitat (Leningrad State University)

SUBMITTED: July 10, 1961

Card 1/1

ARIYA, S.M.; POPOV, Yu.G.

Structure of titanium and vanadium monoxide lattices. Zhur.ob.
khim. 32 no.7:2077-2081. JI. '62. (MIRA 15:7)

1. Leningradskiy gosudarstvennyy universitet.
(Titanium oxides) (Vanadium oxides) (Crystal lattices)

ARIYA, S.M.; MOROZOVA, M.P.

Equilibrium of vanadium oxides with CO_2/CO mixtures. Zhur.ob.khim.
32 no.7:2081-2083 J1 '62. (MIRA 15:7)

1. Leningradskiy gosudarstvennyy universitet.
(Vanadium oxides) (Carbon oxides)

ARIYA, S.M.; GOLOMOLZINA, M.V.

Infrared spectra of titanium and vanadium oxides in the crystal-
line state. Fiz.tver.tela 4 no.10:2921-2924 O '62.

(MIRA 15:12)

1. Leningradskiy gosudarstvennyy universitet.
(Titanium oxide crystals--Spectra)
(Vanadium oxide crystals--Spectra)

ARIYA, S.M.; BRACH, B.Ya.

Electroconductivity of iron oxide at high temperatures. Fiz. tver tela
5 no.12:3496-3499 D '63. (MIRA 17:2)

1. Leningradskiy gosudarstvennyy universitet.

S/078/63/008/004/001/013
A059/A126

AUTHORS: Bogdanova, N.I., Pirogovskaya, G.P., Ariya, S.M.

TITLE: Higher oxides of titanium

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 8, no. 4, 1963, 785 - 787

TEXT: In order to establish the phase ratios in the system $TiO_{2.00}$ - $TiO_{1.5}$, the electric conductivities of the oxides of titanium were measured at 20 and 300°C, and the equilibria of the higher oxides of titanium examined in mixtures with H_2/H_2O at 1,030°C. The electric conductivities were measured in the same way as has been described by the authors before [Zh. obshch. khimii, v. 30, 3 (1960)]. The dependence of the electric conductivity of the oxides of titanium on their compositions was found to agree with the assumption of Andersson and his collaborators [Acta Chem. Scand., v. 11, 1,641 (1957)] on the existence of the compounds $TiO_{1.67}$, $TiO_{1.75}$, $TiO_{1.833}$, $TiO_{1.875}$ - $TiO_{1.889}$, and $TiO_{1.90}$. In order to obtain accurate data on the phase ratios in the system $TiO_{2.0}$ - $TiO_{1.75}$ at high temperatures, the dependence of the composition of solid tita-

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